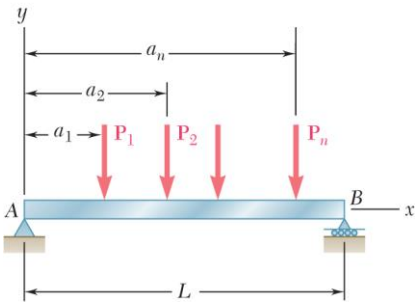
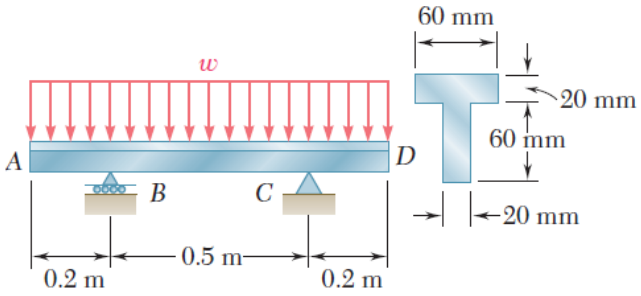
CVEN 305 Honors - Homework #8 Supplemental Problems

1) **For Problem 1,** Several concentrated loads Pi, (i = 1, 2, …, n) can be applied to a beam as shown. Write a simple computer program that can be used to calculate the shear, bending moment, and normal stress at any point, x, along the length (measured from point A) of the beam for a given loading and value for the section modulus. You may check your program by solving the problem given by McGraw-Hill Connect.



2) **For Problem 8,** Write a computer program that can be used to determine the largest permissible distributed load, w, for a given beam cross-section and allowable normal stress in tension and compression. The dimensions of the span and cross-section should be made variable. You may check your program by solving the problem given by McGraw-Hill Connect.



3) **Additional Problem,** Two 52 kN loads are maintained 2.5 m apart as they are moved slowly across the 9 m beam. Write a computer program and use it to calculate the bending moment under each load and at the midpoint C of the beam for values of x from 0 to 11.5 m. Graphs these results on a single plot.